

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A method for engineering cartilage tissue by three-dimensionally culturing bone marrow mesenchymal cells in a simulated microgravity environment.
  
2. (original): The method according to claim 1, wherein the simulated microgravity environment provides gravity that is 1/10 to 1/100 of the ground gravity to an object on a time-average basis.
  
3. (previously presented): The method according to claim 1, wherein the simulated microgravity environment is attained with the use of a bioreactor that realizes a simulated microgravity environment on the earth by compensating the ground gravity with the stress resulting from rotation.
  
4. (original): The method according to claim 3, wherein the bioreactor that realizes a simulated microgravity environment on the ground is a uniaxial rotary bioreactor.
  
5. (original): The method according to claim 4, wherein the bioreactor that realizes a simulated microgravity environment on the ground is a Rotating Wall Vessel (RWV) bioreactor.

6. (currently amended): The method according to claim 5, wherein culture is conducted by seeding bone marrow cells at a density of  $10^6$  to  $10^7$  cells/cm<sup>3</sup> at a rotation speed of 8.5 to 25 rpm when a ~~5-cm RWV 5 cm in diameter RWV~~ vessel is used.

7. (previously presented): The method according to claim 1, wherein culture is conducted by adding TGF- $\beta$  and/or dexamethasone to a culture medium.

8. (previously presented): The method according to claim 1, wherein bone marrow cells are two-dimensionally cultured to confluence, subcultured, and then cultured in a simulated microgravity environment.

9. (previously presented): The method according to claim 1, wherein the bone marrow cells are isolated from a subject in need of transplantation of the engineered cartilage tissue.